

REMARKS

The Official Action mailed May 3, 2004, has been received and its contents carefully noted. Filed concurrently herewith is a *Request for One Month Extension of Time*, which extends the shortened statutory period for response to September 3, 2004. Accordingly, the Applicants respectfully submit that this response is being timely filed.

The Official Action first asserts that Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120. Specifically, the Official Action asserts that the application lacks the necessary reference to the prior application. The Applicants respectfully disagree. Under 37 CFR § 1.76(b)(5), Applicants may provide domestic priority information in an application data sheet and such disclosure "constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and § 1.78(a)(2) or § 1.78(a)(4), and need not otherwise be made part of the specification." The Applicants respectfully submit that the application data sheet includes a specific reference to the prior application and fully complies with Rule 1.76. In that the application data sheet may have become disassociated with the file, a further copy of the originally filed application data sheet is submitted herewith for the convenience of the Examiner. Reconsideration is requested.

The Official Action next notes that a listing of references in the specification is not a proper information disclosure statement. Applicants further note that they have not received acknowledgment of the Information Disclosure Statement filed on October 15, 2003. It again appears that the Information Disclosure Statement, which includes the reference discussed in the specification listed on a PTO Form 1449, may have been disassociated with the file. A further copy is resubmitted herewith for the convenience of the Examiner. The Applicants respectfully request that the Examiner provide an initialed copy of the Form PTO-1449 evidencing consideration of this Information Disclosure Statement.

The Official Action next objects to the title as not descriptive. In response, the title has been amended to read --El Display Device Utilizing Light-Emitting Organic

Compounds, and Method for Forming the Same--. It is respectfully submitted that the title as amended is fully descriptive of the invention claimed and favorable reconsideration is requested.

The Official Action next objects to the drawings, asserting that reference character "105" has been used to designate both the electrode and the compound under the EL layer in Figure 1. The Official Action further asserts that reference characters "105" and "106" have both been used to designate the compound under the EL layer. In response, a *Replacement Sheet* including an amended Figure 1 is submitted herewith. Figure 1 has been amended to remove a lead line from reference character "105" to avoid confusion as which layers are referred to by reference characters "105" and "106." It is believed that the objections to the drawings are overcome by the submission of this *Replacement Sheet* and reconsideration is requested.

The Official Action next objects to the drawings as failing to include reference character "324d" discussed in the specification. In response, page 21 of the specification has been amended to replace "324d" with --324c--. Reference character 324c is shown in Figure 3B, for example, and reconsideration is requested.

The Official Action next objects to the disclosure, asserting that the formulas on page 5 are not shown and suggesting that page 5 be amended to include these formulas. In response, page 5 has been amended above to include the formulas in each instance. No new matter is added and favorable reconsideration is requested in view thereof.

Claims 1-12 were pending in the present application prior to the above amendment. Claims 5 and 9 have been amended to better recite the features of the present invention and new claims 13-18 have been added to recite additional protection to which the Applicants are entitled. Accordingly, claims 1-18 are now pending in the present application, of which claims 1, 3, 5, 9, 13, and 16 are independent. For the

reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action first rejects claims 5-12 under 35 U.S.C. § 112, first paragraph asserting that there is no support in the specification for the amended subject matter of claims 5-12. In response, claims 5 and 9 have been further amended to recite a method for manufacturing a light-emitting device. As noted in the Official Action, the present specification clearly discloses a method of making an EL display device and the rejection of claims 5-12 is believed to be overcome by the amendments to claims 5 and 9. Reconsideration is requested.

The Official Action next rejects claims 1-4 under the doctrine of obviousness-type double patenting over claims 1-9 and 11-19 of U.S. Patent No. 6,641,933 to Yamazaki et al. in view of U.S. Patent No. 6,300,612 to Yu and U.S. Patent No. 6,661,454 to Hwang et al.

As stated in MPEP § 804, under the heading “Obviousness-Type,” in order to form an obviousness-type double patenting rejection, a claim in the present application must define an invention that is merely an obvious variation of an invention claimed in the prior art patent, and the claimed subject matter must not be patentably distinct from the subject matter claimed. Also, the patent principally underlying the double patenting rejection is not considered prior art.

The Applicants respectfully traverse the obviousness-type double patenting rejection because the claims of the present application are patentably distinct from the claims of the '933 patent. Specifically, independent claim 1 of the present application recites a digital camera and the ionic impurity concentration of a thin film of a light-emitting element included in the digital camera. The claims of '933 patent do not disclose or suggest at least these features of the currently pending claims. Therefore, the Applicants respectfully submit that the subject application is patentably distinct from the claims of the '933 patent, taken alone or in combination with Yu and Hwang. Reconsideration of the obviousness-type double patenting rejection is requested.

The Official Action next rejects claims 1-4 as obvious based on the combination of Yu and Hwang et al. and U.S. Patent No. 6,617,051 to Higashi et al. As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

It is respectfully submitted that the prior art of record, taken alone or in combination, fails to disclose or suggest each and every feature of the claims. While Higashi appears to broadly discloses an impurity concentration of 1000ppm or less, Higashi discloses halogen impurities and appears to be completely silent about ionic impurities as claimed. Although the Official Action may appear to contend that Higashi discloses a thin film free of ionic impurity based on the lack of disclosure of any such impurities, such contention would, if asserted, be unreasonable. Higashi is simply silent as to this matter and the omission of any discussion of ionic impurities from the disclosure of Higashi is insufficient to disclose that none exist.

Furthermore, the present invention is directed to a much smaller impurity range of 0.1 or 0.01 ppm or lower that has specific advantages. In a light-emitting element, an ionic impurity such as sodium and potassium exhibits an adverse effect as a movable ion, causes a resistance value of the light-emitting layer to decrease, and cause a current flow other than that caused by a carrier recombination. When such an unnecessary current flows, an amount of heat generation is increased and a light-emitting layer is more likely to deteriorate. The same disadvantage may occur in a light-emitting device. Therefore, the use of a thin film including much a smaller ionic impurity concentration for a light-emitting element leads to a device having high reliability and luminous efficiency. As noted in MPEP 2131.03:

If the claims are directed to a narrow range, the reference teaches a broad range, and there is evidence of unexpected results within the claimed narrow range, depending on the other facts of the case, it may be reasonable to conclude that the narrow range is not disclosed with "sufficient specificity" to constitute an anticipation of the claims. The unexpected results may also render the claims unobvious.

It is respectfully submitted that the increased reliability and the increased luminous efficiency based on the low concentration levels of ionic impurities as claimed, are sufficient to overcome and *prima facie* case of anticipation or obviousness that may be made. Favorable reconsideration is requested.

New claims 13-18 have been added to recite additional protection to which the Applicants are entitled and are believed to be allowable for the same reasons discussed above. Favorable consideration is requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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Amendments to the Drawings:

The attached sheet of drawings includes changes to Figure 1. As described in detail below, Figure 1 has been amended to remove a lead line from reference character "105" to avoid confusion as which layers are referred to by reference characters "105" and "106." This sheet, which includes Figure 1, replaces the original sheet including Figure 1.

Attachment: Replacement Sheet